Calendar No. 304

100TH CONGRESS *1st Session*	SENATE	REPORT 100-151

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION ATMOSPHERIC AND SATELLITE PROGRAM AUTHORIZATION OF 1987

Mr. HOLLINGS, from the Committee on Commerce, Science, and Transportation, submitted the following

REPORT

OF THE

SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ON

S. 1667

AUGUST 12, 1987.—Ordered to be printed

Filed under authority of the order of the Senate of August 7 (legislative day, August 5), 1987

U.S. GOVERNMENT PRINTING OFFICE

91-010 WASHINGTON : 1987

S263-03

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Filed under authority of the order of the Senate of August 7 (legislative day, August 5), 1987

Mr. HOLLINGS, from the Committee on Commerce, Science, and Transportation, submitted the following

REPORT

[To accompany S. 1667]

The Committee on Commerce, Science, and Transportation, having considered an original bill (S. 1667) to authorize certain appropriations for the atmospheric and satellite programs and functions of the National Oceanic and Atmospheric Administration, and for other purposes, reports favorably thereon and recommends that the bill do pass.

PURPOSE OF THE BILL

S. 1667 would reauthorize appropriations for fiscal years 1988 and 1989 for the atmospheric, satellite, and environmental data programs of the National Oceanic and Atmospheric Administration (NOAA).

BACKGROUND AND NEEDS

NOAA's atmospheric, satellite, and environmental data programs support the agency's goals of protecting life and property through monitoring and predicting weather and environmental conditions, providing national and global environmental data and information products, and researching the properties and processes of the earth and its atmosphere.

S. 1667, which is one of a series of bills which together provide a comprehensive authorization for NOAA, addresses the budget subactivities of three NOAA organizations: the National Weather Service (NWS), the Office of Oceanic and Atmospheric Research (OAR), and the National Environmental Satellite, Data, and Information Service (NESDIS).

The NWS budget subactivities are (1) operations and research and (2) systems acquisition. Both of these subactivities relate to NWS's responsiblity for timely weather and flood prediction and warning services throughout the country. The operations and research subactivity provides funding for the 52 Weather Service Forecast Offices and 235 local Weather Service Offices. The systems acquisition subactivity has been specially created to address the NWS's need to acquire major systems to modernize its weather radar, telecommunications, and data processing capability. The Committee considers the next generation radar (NEXRAD) program to be essential, since the long overdue replacement of current antiquated weather radars should be accomplished as soon as possible. It is also important that the Advanced Weather Interactive Processing System (AWIPS) and Automated Surface Operations System (ASOS) be funded at a level sufficient to keep pace with the NEXRAD program, since the three programs are designed to go hand in hand.

The OAR budget subactivities are (1) climate and air quality research and (2) atmospheric programs. A significant portion of OAR's work in these areas is focused on global phenomena, including changes in atmospheric ozone distribution and the buildup of carbon dioxide and other "greenhouse" gases that affect global warming. This global change research is, in the Committee's view, a critical sphere of investigation for both NOAA and the Nation. OAR also investigates weather prediction technology, conducts research into the causes of localized severe weather events, and participates in Federal acid rain research. Included in the climate and air quality research subactivity is funding for the National Climate Program Act, whose authorization expires at the end of fiscal year 1987.

The budget subactivities for NESDIS are (1) satellite observing systems and (2) data and information services. The first subactivity involves the operation of NOAA's polar-orbiting and geostationary environmental satellites and land remote-sensing satellites. In addition, the subactivity includes funding for the procurement of spacecraft, launch services, and associated ground system changes for these satellites. The Committee views with concern the tight timetable for completion of the next generation of geostationary satellites and procurement of reliable private launch services for these satellites. The geostationary satellite system is vital in the forecast and effective public warning of hurricanes and other large scale weather events that threaten vast numbers of our citizens every year. By late 1989, the current target for the next replacement launch, both of the satellites now in orbit will be approaching the end of their design lives, and major delays in the launch could mean a complete loss of geostationary coverage.

The portion of this subactivity that deals with Landsat commercialization has already been authorized under the Land Remote-

Sensing Commercialization Act of 1984 ("the 1984 Act"), whose goals continue to be supported by the Committee. In this connection the Committee awaits the administration's submission of a proposal for a commercially viable two-satellite system, along with a realistic budget request that does not impinge on the continuation of other NOAA programs. Associated land remote-sensing data archiving is obviously a key element in the commercialization effort as is reflected in section 602 of the 1984 Act. The Committee notes favorably the May 1986 Memorandum of Agreement between NOAA and the U.S. Geological Survey (USGS), which calls for a National Satellite Land Remote Sensing Data Archive at the USGS Earth Resources Observation System (EROS) Data Center. Because NOAA has oversight responsiblity for all other aspects of the United States civil operational land remote-sensing program, the Committee believes that it is appropriate that NOAA fund the data acquisition and Archive operations to be carried out by USGS. Part of this funding is appropriately included within the authorization required for continuing the government-owned Landsats 4 and 5, which have lasted beyond their anticipated lifespans. Initiating the Archive for a basic global data set as contemplated under section 602(b) of the 1984 Act, however, requires an increase within the authorization for the satellite observing systems subactivity.

The second NESDIS subactivity covers the broad range of environmental data and information services. The Committee places special importance on NOAA's data management activities, given their value in helping scientists to monitor changes in global climate and other earth processes.

LEGISLATIVE HISTORY

An authorization hearing of the full Committee and National Ocean Policy Study was held on May 19, 1987. Testimony was received from the NOAA Administrator, Dr. Anthony J. Calio, and a panel of atmospheric researchers concerning the agency's budget and programs. On July 14, 1987, the Committee, without objection, ordered S. 1667 reported.

SUMMARY OF MAJOR PROVISIONS

S. 1667 authorizes appropriations of $848.2 million for fiscal year 1988 and $1.016 billion for fiscal year 1989 for six NOAA budget subactivities: NWS operations and research, NWS systems acquisition, climate and air quality research, OAR atmosphere programs, satellite observing systems, and environmental data and information services. Appropriations for each of these subactivities are authorized in the following amounts:

[In thousands of dollars]

	Fiscal year—	
	1988	1989
NWS:		
Operations/research	311,568	324,031
Systems acquisition	86,000	130,800

[In thousands of dollars]

	Fiscal year—	
	1988	1989
OAR:		
Climate/air quality research	40,246	41,856
Atmospheric programs	44,404	46,180
NESDIS:		
Satellite observing systems	338,900	440,500
Data and information services	27,047	32,717

As part of the climate and air quality research subactivity, the bill reauthorizes the National Climate Program Act for $2.104 million for fiscal year 1988 and $2.188 million for fiscal year 1989.

ESTIMATED COSTS

In accordance with paragraph 11(a) of rule XXVI of the Standing Rules of the Senate and section 403 of the Congressional Budget Act of 1974, the Committee provides the following cost estimate, prepared by the Congressional Budget Office:

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, DC, July 15, 1987.

Hon. ERNEST F. HOLLINGS,
Chairman, Committee on Commerce, Science and Transportation, U.S. Senate, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the attached cost estimate for the National Oceanic and Atmospheric Administration Atmospheric and Satellite Program Authorization Act of 1987.

If you wish further details on this estimate, we will be pleased to provide them.

With best wishes,

Sincerely,

EDWARD M. GRAMLICH,
Acting Director.

CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

1. Bill number: Not yet assigned.

2. Bill title: National Oceanic and Atmospheric Administration Atmospheric and Satellite Program Authorization Act of 1987.

3. Bill status: As ordered reported by the Senate Committee on Commerce, Science, and Transportation, July 14, 1987.

4. Bill purpose: This bill would authorize appropriations totaling $848 million for fiscal year 1988 and $1.016 billion for fiscal year 1989 for atmospheric and satellite programs carried out by the National Oceanic and Atmospheric Administration. These programs include the National Weather Service, the Office of Oceanic and Atmospheric Research, and the National Environmental Satellite, Data, and Information Service. The 1987 program level for these activities is $702 million.

5. Estimated cost to the Federal Government:

[By fiscal year, in millions of dollars]

	1988	1989	1990	1991	1992
Authorization level:					
National Weather Service	398	455			
Office of Oceanic and Atmospheric Research	85	88			
National Environmental Satellite, Data, and Information Service	366	473			
Total	848	1,016			
Estimated outlays	577	920	300	47	20

Basis of estimate: This estimate assumes this bill will be enacted and the full amounts authorized will be appropriated prior to the start of fiscal year 1988. The estimated outlays are based on historical spending patterns.

6. Estimated cost to State and local government: None.

7. Estimate comparison: None.

8. Previous CBO estimate: None.

9. Estimate prepared by: Michael Sieverts.

10. Estimate approved by: James L. Blum, Assistant Director for Budget Analysis.

REGULATORY IMPACT STATEMENT

In accordance with paragraph 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee provides the following evaluation of the regulatory impact of the legislation, as reported.

S. 1667 simply authorizes appropriations to continue existing programs and will result in no additional regulations. It will therefore have no further effect on the number or type of individuals and businesses regulated, the economic impact of such regulation, the personal privacy of affected individuals, or the paperwork required from such individuals and businesses.

SECTION-BY-SECTION ANALYSIS

Section 1.—Short Title

The short title of the bill is the "National Oceanic and Atmospheric Administration Atmospheric and Satellite Program Authorization Act of 1987".

TITLE I—NATIONAL WEATHER SERVICE

SECTION 101.—OPERATIONS AND RESEARCH

This section authorizes $311,568,000 for fiscal year 1988 and $324,031,000 for fiscal year 1989 for the operations and research duties of the NWS. This applies to public warning and forecast activities of a meteorological, hydrological, and oceanographic character, as well as to applied research underlying these activities. The fiscal year 1988 sum includes funding for activities requested by the administration, as well as (1) $8,353,000 for restorations of reductions for agricultural weather services, the fruit frost program, fire weather services, flood warning systems, NOAA Weather Radio, and management changes; (2) $3,100,000 for development of systems for training employees in new NWS technology; and (3)

$25,800,000 for pay raise, employee benefits, and inflation shortfalls. The fiscal year 1989 authorization contains a 4 percent inflation increase over the fiscal year 1988 level.

SECTION 102.—SYSTEMS ACQUISITION

This section authorizes $86,000,000 for fiscal year 1988 and $130,800,000 for fiscal year 1989 for the development, acquisition, and implementation of major NWS public warning and forecast systems. The fiscal year 1988 authorization is identical to the administration's request for this budget subactivity. It applies to three new technology systems: the NEXRAD program, which is a joint program with the Federal Aviation Administration (FAA) and U.S. Air Force; the ASOS program, jointly sponsored with FAA; and the AWIPS program. The fiscal year 1989 authorization is based on funding requirements for the three programs as set forth in the administration's budget submission for NOAA. The following table shows the authorization levels for each of the programs:

[In thousands of dollars]

	Fiscal year—	
	1988	1989
NEXRAD	56,000	90,800
ASOS	9,450	11,250
AWIPS	20,550	28,750

This section also provides authority for the multiyear procurement of information processing and telecommunications services in connection with the AWIPS program. The Committee intends that the Commerce Department, in proceeding with the AWIPS procurement, ensure that its actions are fully in accordance with the Federal Acquisition Regulation System. In the coming months, the Committee expects to examine closely assertions by some that AWIPS services cannot be carried out unless the contractor operating the system receives government protection from third party liability.

TITLE II—ATMOSPHERIC RESEARCH

SECTION 201.—CLIMATE AND AIR QUALITY RESEARCH

This section authorizes $40,246,000 for fiscal year 1988 and $41,856,000 for fiscal year 1989 for NOAA's climate and air quality research activities. These are carried out by OAR. The fiscal year 1988 authorization includes the amount requested by the administration for the subactivity, a $3,000,000 restoration of proposed funding reductions in the Tropical Ocean/Global Atmosphere (TOGA) programs, and a $3,000,000 enhancement in research on trace gases that are significant factors in the environmentally-dangerous greenhouse effect. The fiscal year 1989 authorization is an increase over the fiscal year 1988 level of 4 percent for inflation. This section also reauthorizes the National Climate Program Act, providing $2,104,000 for fiscal year 1988 and $2,188,000 for fiscal

year 1989 from within the overall authorizations for the climate and air quality research subactivity. The fiscal year 1988 level is the same as provided for fiscal year 1987 for that act, and the fiscal year 1989 contains a 4 percent inflationary increase.

SECTION 202.—ATMOSPHERIC PROGRAMS

This section authorizes $44,404,000 for fiscal year 1988 and $46,180,000 for fiscal year 1989 for NOAA's atmospheric research activities carried out by OAR. These activities include research for developing improved prediction capabilities for atmospheric processes, as well as solar-terrestrial services and research. The fiscal year 1988 authorization includes the funding requested by the administration, as well as $6,700,000 in sums required for restorations and modest enhancements of severe storm research programs. The fiscal year 1989 authorization contains a 4 percent inflationary increase over the fiscal year 1988 level.

TITLE III—NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE

SECTION 301.—SATELLITE OBSERVING SYSTEMS

This section authorizes $338,900,000 for fiscal year 1988 and $440,500,000 for fiscal year 1989 for NESDIS activities related to NOAA satellite observing systems. These activities include spacecraft procurement, launch, and associated ground station system changes involving polar-orbiting and geostationary environmental satellites and land remote-sensing satellites. The operation of these satellite systems is also included within this subactivity. Landsat commercialization authorizations, however, are not included in this bill since they have already been authorized under the 1984 Act.

The fiscal year 1988 authorization covers the administration's request for launch and spacecraft procurement and satellite operations. In addition, the authorization includes $30,700,000 in funding to continue operating Landsats 4 and 5 (which have lasted beyond their anticipated lifetimes) and the $30,400,000 in increases required for geostationary satellite launch services related to the loss of shuttle launch capability. Also, because of the importance of a formal archiving capability to the long-term preservation of land remote-sensing satellite data, the Committee believes that NOAA should not delay the establishment of the National Land Remote Sensing Data Archive. Therefore, the authorization for this subactivity contains $4 million in fiscal year 1988 and $14,600,000 in fiscal year 1989 to initiate the establishment and operation of the Archive. The Committee expects future NOAA budget requests to contain a specific line item for the Archive. The fiscal year 1989 authorization for this subactivity is based on the administration's projections for the applicable procurement activities, including further increases in launch costs related to the difficulties with the space shuttle and the previously-mentioned funds for the EROS Archive.

SECTION 302.—ENVIRONMENTAL DATA MANAGEMENT

This section authorizes $27,047,000 for fiscal year 1988 and $32,717,000 for fiscal year 1989 for NESDIS's environmental data and information services. The main areas of activity are climatic data services, ocean data services, geophysical data services, and environmental assessment and information services. The fiscal year 1988 authorization includes the administration's request for this subactivity. It also contains $2,800,000 in funding to upgrade the current data management system for storage and retrieval of the data that will be produced by the next generation of NOAA radars and satellites that will be coming on line in the next few years. This upgrading is a necessary precursor to the proper implementation of the global environmental change program approved in S. 1487, the NOAA ocean and coastal program authorization bill. The fiscal year 1989 authorization contains a 4 percent inflation increase for ongoing services, plus additional funding of $7,500,000 to upgrade the data management system.

CHANGES IN EXISTING LAW

In compliance with paragraph 12 of rule XXVI of the Standing Rules of the Senate, the Committee states that the bill as reported would make no change to existing law.

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